TABLE OF CONTENTS

		PAGE
The gametophytes of three species of *Equisetum* (with fifty-four figures) - - - - - - -	*Elda R. Walker*	1
Development of the macrogametophyte and embryo of *Daucus carota* (with thirty-two figures) - -	*H. A. Borthwick*	23
Unusual aspects of meiotic and postmeiotic chromosomes of *Gasteria* (with plates I, II and fourteen figures) - - - - - - - - - - -	*Hsu-Chuan Tuan*	45
Discharge of sperms in *Marchantia domingensis* (with nineteen figures) - - - - - - -	*Emma N. Andersen*	66
Marcescent leaves of certain species of *Quercus* (with eleven figures) - - - - - - - - -	*Earl E. Berkley*	85
Further evidence on the necessity of boron for health in citrus (with six figures) - - - - -	*A. R. C. Haas and L. J. Klotz*	94
A new method for determining the proportion of the length of a tracheid that is in contact with rays (with one figure) - - - - - - - -	*Alfred J. Stamm*	101
Factors affecting growth from the foliar meristems of *Bryophyllum calycinum* (with four figures) -	*Ferdinand P. Mehrlich*	113
Ecological survey of the Bella Coola region. Contributions from the Hull Botanical Laboratory 419 (with five figures) - - - - - - -	*Blanche McAvoy*	141
Germination of spores and development of juvenile thallus of *Riella americana*. Contributions from the Hull Botanical Laboratory 420 (with twenty-five figures) - - - - - - - - - -	*R. A. Studhalter*	172
Regenerative capacities of leaf and leaflet cuttings of tomato and of leaf and shoot cuttings of potato (with twenty-three figures) - - - - - -	*C. L. Isbell*	192
New or otherwise noteworthy Compositae. VII. Contributions from the Hull Botanical Laboratory 421 - - - - - - - - - - -	*Earl Edward Sherff*	202

		PAGE
Embryology of *Osmunda cinnamomea*. Contributions from the Hull Botanical Laboratory **422** (with eight figures)	*George L. Cross*	210
Development of sex organs of fern prothallia under prolonged cultivation (with two figures)	*David M. Mottier*	218
Notes on the genus *Lemanea* in North America	*George F. Atkinson*	225
The suspensor of *Sciadopitys* (with nineteen figures)	*John T. Buchholz*	243
Available soil calcium in relation to "damping off" of soy bean seedlings (with ten figures)	*W. A. Albrecht and Hans Jenny*	263
Cicatrization of foliage leaves (with seven figures)	*Robert B. Wylie*	279
Relative abundance of stomata in citrus and some related genera (with one figure)	*E. Hirano*	296
Some caryophyllaceous plants influenced in growth and structure by artificial illumination supplemental to daylight (with eighteen figures)	*Francis Ramaley*	311
Increase of sugar utilization in *Spirogyra* by means of commercial fertilizers	*E. Williams, L. Kneer, G. C. Wickwire, D. J. Verda, and W. E. Burge*	321
Origin of leaf, and adventitious and secondary roots of *Ceratopteris thalictroides*. Contributions from the Hull Botanical Laboratory **423** (with nine figures)	*M. Dorisse Howe*	326
Effect of ethylene on the ripening of bananas. Contributions from the Hull Botanical Laboratory **424** (with eight figures)	*Herbert S. Wolfe*	337
Anatomy of the transition region of *Pisum sativum*. Contributions from the Hull Botanical Laboratory **425** (with twenty-two figures)	*Joseph H. Gourley*	367
The relation of nitrogen to potassium in the nutrition of fruit trees	*Edgar J. Gildehaus*	384
Meiosis in *Hypericum punctatum* (with plates III, IV)	*Carl S. Hoar*	396
Anatomy of the primary axis of *Solanum melongena*. Contributions from the Hull Botanical Laboratory **426** (with ten figures)	*Albert F. Thiel*	407

		PAGE
Penetration of seed coats by ultraviolet radiation (with plates V, VI)	*Charles A. Shull and Harvey B. Lemon*	420
Acid injury of cotton roots (with six figures)	*J. J. Taubenhaus and Walter N. Ezekiel*	430
Anatomy of normal and acid-injured cotton roots (with ten figures)	*U. R. Gore and J. J. Taubenhaus*	436
Studies in sugar cane physiology. II. Sugar cane gases (with two figures)	*Augusto Bonazzi*	442
Needle structure as an aid in distinguishing Colorado blue spruce from Engelmann spruce (with six figures)	*H. F. Marco*	446
A new species of *Bidens* from Africa	*Earl Edward Sherff*	450
CURRENT LITERATURE		108, 224, 330, 452

For titles of book reviews see index under author's name and Reviews

Papers noticed in "Notes for Students" are indexed under author's name and subjects

---

DATES OF PUBLICATION

No. 1, September 17; No. 2, October 21; No. 3, November 14; No. 4, December 21

ERRATA

VOL. XCII

P. 262, for citation **8** read **12**
for citation **9** read **8**
for citation **10** read **9**
for citation **11** read **10**
for citation **12** read **11**